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# An Overview of Results from the Atmospheric Model Intercomparison Project (AMIP)

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## ABSTRACT

The international Atmospheric Model Intercomparison Project (AMIP) is being carried out by the Program for Climate Model Diagnosis and Intercomparison (PCMDI) with support from the U.S. Department of Energy on behalf of the Working Group on Numerical Experimentation of the World Climate Research Programme. This project calls for the simulation of the decade 1979–1988 by all atmospheric GCMs using the observed monthly-averaged distributions of sea-surface temperature and sea ice, and standardized values of the solar constant and atmospheric $CO_2$ concentration.

Preliminary analysis of the monthly-mean output from the 30 atmospheric GCMs participating in AMIP shows that they generally simulate the observed large-scale seasonal mean climate reasonably well, although there is a notable spread among the models' results, especially in the case of high-latitude sea-level pressure, tropical precipitation, and cloudiness. Other apparent systematic model errors will be discussed in relation to the best-available observational estimates, including the evidence for model errors in the net cloud-radiative forcing. The more detailed analyses of the AMIP results that are being carried out by the 26 AMIP diagnostic subprojects focussed on specific aspects of the models' variability and their simulation of selected phenomena will also be summarized, as will the planning for the future of AMIP in the context of a broadened model intercomparison effort.

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